

Bi-Weekly IOOS® Z-GRAM – 14 November

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ANNOUNCEMENT: Dr. Holly Bamford, The Acting Assistant Secretary of Commerce for Conservation and Management announced the release of the Phase 1 Report for the **NOAA and U.S. IOOS Ocean Enterprise: A study of US business activity in ocean measurement, observation and forecasting**. The first phase of the study identified nearly 600 private companies who are either providers of or users of Blue Technology. This announcement was made at The Maritime Alliance 6th Blue Tech, Blue Economy Summit. **The full report on Phase 1 findings can be found [here](#) (pdf). Click [here](#) (pdf) for a two-page summary. More information on the study can be found at <http://www.usworks.com/usioos/>.** See related story on Mississippi's Blue Tech and Blue Economy below.

From the IOOS Program Office:

- **Want to Influence the Future Direction of IOOS?** The IOOS Program is soliciting nominations to the IOOS Advisory Committee (IOOS AC) for Fall 2015. The IOOS AC has been well-served by having members with a variety of perspectives and viewpoints and we encourage the nomination of individuals who would contribute to the diversity and balance of the Committee. **Applications will be accepted through November 24, 2014.** Please refer to the [Federal Register notice](#), also posted on the IOOS website at www.ioos.noaa.gov. If making a nomination for someone else, please affirm whether or not you have some indication as to the candidate's willingness to serve.
- **Position Announcement:** GLOS Executive Director: The Great Lakes Observing System (GLOS) Board of Directors is searching for a strategically-minded, action-oriented individual to serve as the GLOS Executive Director, working out of our offices in Ann Arbor, MI. The Executive Director is the key management leader of the Great Lakes Observing, responsible for overseeing the administration, programs, and [strategic plan](#) of the organization. Other key duties include fundraising, marketing, and community outreach. The position reports directly to the Chairman of the Board. The full position description can be found [here](#).

Observation Subsystem and Sensor Technologies

- **High Frequency Radar/Radio** (Lead Jack Harlan, Jack.Harlan@noaa.gov): See EuroGOOS meeting highlights below.
- **New Gap Analysis for NWLON:** NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) just published a new gap analysis that includes the Great Lakes: [A Network Gaps Analysis for the National Water Level Observation Network - Updated Edition](#) and a [Gap Analysis of the Great Lakes Component of the National Water Level Observation Network \(NWLON\)](#).

Data Management and Communications (DMAC) Subsystem and Tools Built on IOOS data (Contact Derrick or Rob to get on the list serve for changes Derrick.Snowden@noaa.gov, Rob.Ragsdale@noaa.gov):

- **QARTOD:** Based upon input received from the [Ocean Optics conference](#), our tentative plan is to include these variables in the ocean optics QC manual: In-Water Radiance, Above-Water Radiance, Beam attenuation, Turbidity and Photosynthetically Available Radiation (PAR). These additional variables listed below should be addressed in one or more additional QC manuals at a later time: Chlorophyll, CDOM, Phytoplankton species, Zooplankton abundance, Total suspended matter.
- **IOOS DMAC Webinar on QARTOD:** Click [here](#) on Wednesday, November 19th starting at 3 PM EST to join the Webinar. For audio, dial [1-866-759-4289](tel:1-866-759-4289) and enter the access code 143 876 9. We will discuss QARTOD/ quality control tests applied at RA and federal DACs with the goal of agreeing on a threshold or range test to implement. This will build on last month's discussion on how to draft specifications.

Modeling and Analysis Subsystem – No update.

For information on the US IOOS Coastal and Ocean Modeling Testbed (COMT), contact our project manager, Becky Baltés, Becky.Baltes@noaa.gov.

Interagency and International Collaboration/News:

- **IOOS RAs and Marine Bio-Diversity on the GEO Plenary Storyboard:** Using ESRI's storymaps, the United States Group on Earth Observations Team, put together the following for use at the Group on Earth Observations Plenary – Enjoy:
 - Interactive version: <http://storymaps.esri.com/stories/2014/understanding-earth-geo-xi/>,
 - Automated version: <http://storymaps.esri.com/stories/2014/understanding-earth-geo-xi-slideshow/>
- **IOOC Biological Integration and Observation Task Team (BIOTT):** The [BIOTT](#) workshop had 40 representatives participate in this meeting from regional and national biological and ecological marine observing sectors. The objective of this workshop was to formulate recommendations for the future planning of IOOS biological variables and to identify and prioritizing cross-cutting biological and ecosystem observational needs beyond currently recognized core biological variables. A preliminary recommendation was formulated during this meeting and will be presented in the upcoming [IOOC](#) meeting.
- **BODC/NODC/IOOS workshop:** Justin Buck from the British Oceanographic Data Center and NODC team (Ken Casey, Technical Director; Steve Rutz, Chief of Staff; and Tom Ryan, NODC Data Officer), and the IOOS Program office discussed the topics of data stewardship, public-private boundaries with respect to product development, Send2NODC, ISO implementation, and DOIs. Argo DOIs were discussed in particular at length, building off previous discussions and the latest from the Argo Data Management Team. Implementation of glider data archives were also discussed, in particular the issues IOOS is facing getting various glider data operators to follow the

Glider DAC guidelines. Finally, they discussed BODC progress in implementing the IOOS ncSOS software.

Delivering the Benefits:

- **Expanding Partnerships for Ocean Observing and HF Radar in Europe:** I had the great fortune of participating in the first EuroGOOS High Frequency Radar (HFR) task team meeting and the 7th EuroGOOS conference – Operational Oceanography for Sustainable Blue Growth. EuroGOOS has set up a HFR task team to organize the community and further their participation on the GEO HF Radar task. A huge success with over 50 participants representing France, Germany, Greece, Netherlands, Norway, Italy, Portugal, Scotland, Slovenia, Spain, and the United States; 15 Institutions; and Industry representatives from CODAR Ocean Sensors, LTD, US, Qualitas Instruments, and WERA. A fundamental use of HFR is understanding mesoscale circulation – see HFR artwork [here](http://www.ioos.noaa.gov/ioos_in_action/stories/eurogoos_hfradar14.html)http://www.ioos.noaa.gov/ioos_in_action/stories/eurogoos_hfradar14.html. Operational uses include within ports and response to oil spills. Most HFR deployments have been in response to research grants, but Spain and Portugal have embarked on countrywide network. The IOOS and GEO HF Radar presentations can be seen [here](#). Presentations from the HF Radar Meeting are available at:<http://www.emodnet-physics.eu/hfradar/meeting-presentations>. The focus of the EuroGOOS meeting was on how Operational Oceanography can help Europe have a sustainable Blue Economy. The first day of the meeting was devoted to plenary talks that focused on major projects and how they can support a sustainable Blue Growth. I was invited to present a U.S. IOOS presentation and my presentation can be viewed [here](#).
- **New Red Tide Research Findings Support Sustained Funding for Coastal Observing Systems in the Gulf of Mexico:** Expanded coastal monitoring systems could protect public health and coastal economies from red tide, Gulf organization says. A new special issue of the journal *Harmful Algae* that compiles five years of research studies about red tide in the Gulf of Mexico recommends state and federal funding support to maintain and expand the ability to predict and track the movements of these harmful algal blooms. Dr. Cynthia Heil, Senior Research Scientist at Bigelow Laboratory for Ocean Sciences in Maine (and formerly of FWC's Fish and Wildlife Research Institute) co-edited the special issue of *Harmful Algae* and was lead author in the paper recommending sustained and increased funding for monitoring. For ten years, members of the Gulf of Mexico Coastal Ocean Observing System Regional Association (GCOOS-RA) have been developing, deploying, and maintaining instrumentation that has helped uncover many of the new findings reported in *Harmful Algae* about *K. brevis*. "But more needs to be done," said Dr. Barbara Kirkpatrick, Executive Director of the GCOOS-RA. The coastal ocean observing assets now in place in the Gulf of Mexico that are used to predict and monitor for red tide blooms include teams of scientists conducting regular water sampling, research cruises, autonomous underwater vehicles outfitted with red tide detectors, moorings, beach conditions reports, satellite imagery, high-frequency radar (HFR) and the West Florida Coastal Ocean Model. This information is gathered and available at the GCOOS-RA data portal, <http://data.gcoos.org/> which has helped researchers at various institutions easily share data and increase their ability to collaborate on research. Read more at <http://gcoos.tamu.edu/?p=8341>
- **Report Shows a Significant Blue Economy in Mississippi:** Three Mississippi coastal counties have a total workforce of 143,873, and the decipherable maritime industries

account for 31,828 of those jobs or 22% of the workforce. In Mississippi, the MSET and the University of Southern Mississippi (USM), both GCOOS-RA members, and the local section of MTS, partnered to conduct a study of the maritime industry cluster along the MS Gulf coast. For more exciting results see: <http://gcoos.tamu.edu/?p=8324>

- **West Coast Beaches Monitoring for Fukushima Radiation:** The plume from the March 2011 earthquake off Japan and destruction of 3 nuclear reactors is approaching the U.S. West Coast. An effort is underway to establish radiation sampling and processing at Scripps to understand and be responsive to levels of Cesium 134 and 137 in local waters. Learn more about marine and environmental radiation via the WHOI portal – [our radioactive ocean](#). So far this project has included:
 - Collection of daily water samples via the [SCCOOS's shore station program](#), with leveraged funding by California Dept. of Boating & Waterways.
 - Method for water samples to be analyzed by Scripps Institution of Oceanography's Scholar, James Day supported by a private donor.
 - Samples collected thus far are analyzed by Ken Buessler at Wood's Hole Oceanographic Institution (WHOI) with support from the Pacific Blue Foundation.
- **Storm Surge Monitoring in Unalakleet and Tununak; Color indexed maps for 5 communities:** AOOS, the National Weather Service, and the Alaska Division of Geological & Geophysical Surveys partnered to outfit two new coastal water level instruments in Unalakleet and Tununak this month. The real-time water level data from these sensors is available from the NWS Alaska Region River Forecast Center website and on the AOOS [real-time sensor map](#). In a separate but related project the same group produced flood maps for Shishmaref, Kivalina, Unalakleet, Shaktoolik, and Golovin. These maps are available [here](#).

Congressional: No update.

Communications / Outreach / Education:

- **Blue Tech Economic Engine Shifts into High Gear:** <http://www.marinetechologynews.com/news/economic-engine-shifts-503674>
- **NANOOS - Discover Science Weekend:** Over 2,700 people attended Seattle Aquarium's Discover Science Weekend where NANOOS led the very popular "Great Build A Buoy Challenge" and demonstrated NANOOS's online data portal, the NANOOS Visualization System. Discover Science Weekend brings visiting scientists and researchers from the University of Washington, NOAA, the State of Washington, and other agencies to share current research with Seattle Aquarium visitors.
- **GCOOS and SECOORA at St. Pete Science Festival; GCOOS at the Spooky Science Festival:** Since the inception of the St. Petersburg Science Festival in 2011, the GCOOS-RA has participated in both the Sneak-Peek Day for Florida's Pinellas and Hillsborough County students, and the public open house that draws more than 20,000 visitors. GCOOS conducted hands-on activities to teach G4-5 students about coastal radar technology and its applications in oceanography. Activities were designed to be

a fun way to support experiential learning in Science, Technology, Engineering and Math (STEM) disciplines, aligned to Florida State and national education standards. For the public event on 18 October, GCOOS and SECOORA joined forces to showcase regional observations and applications. The GCOOS-RA was also pleased to host a joint exhibit with partner Bay Point Elementary (BPE) School. The Science, Math, Technology and Foreign Language magnet school has collaborated with GCOOS on numerous education projects, including a joint Duke Energy grant to bring water quality monitoring capabilities to their GK-5 students. <http://gcoos.tamu.edu/?p=8288>. For the 2nd year, the GCOOS-RA partnered with the BPE Parent Teacher Association and hosted Spooky Science at the festival. Serving a population where more than 60% of the students are on free or reduced lunch, the GCOOS-RA is working to offer enrichment opportunities to support the science, math and technology focus of this magnet school, located in St. Petersburg, FL. More than 250 GK-5 students participated in science activities that ranged from building buoyant sampling platforms to identifying mesopelagic lantern fish. <http://gcoos.tamu.edu/?p=8317>

Upcoming Meetings with IOOS participation: No Update.

View the IOOS
calendar: <http://www.ioosassociation.org/calendar> or <http://www.ioos.noaa.gov/about/calendar.html>

Cheers,
Zdenka

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Zdenka Willis
Director, US IOOS Program Office

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